

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2005/002388

A. CLASSIFICATION OF SUBJECT MATTER  
Int.Cl<sup>7</sup> A61K38/00, A61P11/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
Int.Cl<sup>7</sup> A61K38/00, A61P11/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
CA (STN), MEDLINE (STN)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	Tomoaki HOSHINO et al., Redox-active Protein Thioredoxin Prevents Proinflammatory Cytokine- or Bleomycin-induced Lung Injury, American Journal of Respiratory and Critical Care Medicine, Vol.168, 2003, pages 1075 to 1083	1-7
Y	M. Profita et al., Effect of cilomilast (Ariflo) on TNF- $\alpha$ , IL-8, and GM-CSF release by airway cells of patients with COPD, Thorax, Vol.58, 2003, pages 573 to 579	1-7
A	Hajime NAKAMURA et al., Circulating thioredoxin suppresses lipopolysaccharide-induced neutrophil chemotaxis, PNAS, Vol.98, No.26, 2001, pages 15143 to 15148	1-7



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search  
13 April, 2005 (13.04.05)

Date of mailing of the international search report  
10 May, 2005 (10.05.05)

Name and mailing address of the ISA/  
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

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PCT/JP2005/002388

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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A	Yasuhiro GON et al., Expression of thioredoxin in bleomycin-injured airway epithelium Possible role of protection against bleomycin induced epithelial injury, Life Sciences, Vol.68, 2001, 1877-1888	1-7
A	Carol A. Airways Inflammation and COPD Epithelial-Neutrophil Interactions, CHEST, Vol.121, 2002, p.142S-150S	1-7
A	Yukio ISHII et al., Early Molecular and Cellular Events of Oxidant-Induced Pulmonary Fibrosis in Rats, Toxicology and Applied Pharmacology, Vol.167, 2000, pages 173 to 181	1-7
A	William R. Henderson, Jr. et al., A Small Molecule Inhibitor of Redox-Regulated NF-κB and Activator Protein-1 Transcription Bloks Allergic Airway Inflammation in a Mouse Asthma Model, The Journal of Immunology, Vol.169, 2000, pages 5294 to 5299	1-7

## A. 発明の属する分野の分類 (国際特許分類 (IPC))

Int.Cl.<sup>7</sup> A61K38/00, A61P11/00

## B. 調査を行った分野

調査を行った最小限資料 (国際特許分類 (IPC))

Int.Cl.<sup>7</sup> A61K38/00, A61P11/00

最小限資料以外の資料で調査を行った分野に含まれるもの

国際調査で使用した電子データベース (データベースの名称、調査に使用した用語)

CA (STN), MEDLINE (STN)

## C. 関連すると認められる文献

引用文献の カテゴリー*	引用文献名 及び一部の箇所が関連するときは、その関連する箇所の表示	関連する 請求の範囲の番号
Y	Tomoaki Hoshino et al., Redox-active Protein Thioredoxin Prevents Proinflammatory Cytokine- or Bleomycin-induced Lung Injury, American Journal of Respiratory and Critical Care Medicine, Vol.168, 2003, p.1075-1083	1-7
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☒ C欄の続きにも文献が列挙されている。☐ パテントファミリーに関する別紙を参照。

## \* 引用文献のカテゴリー

「A」特に関連のある文献ではなく、一般的技術水準を示すもの

「E」国際出願日前の出願または特許であるが、国際出願日以後に公表されたもの

「L」優先権主張に疑義を提起する文献又は他の文献の発行日若しくは他の特別な理由を確立するために引用する文献 (理由を付す)

「O」口頭による開示、使用、展示等に言及する文献

「P」国際出願日前で、かつ優先権の主張の基礎となる出願

の日の後に公表された文献

「T」国際出願日又は優先日後に公表された文献であって出願と矛盾するものではなく、発明の原理又は理論の理解のために引用するもの

「X」特に関連のある文献であって、当該文献のみで発明の新規性又は進歩性がないと考えられるもの

「Y」特に関連のある文献であって、当該文献と他の1以上の文献との、当業者にとって自明である組合せによって進歩性がないと考えられるもの

「&amp;」同一パテントファミリー文献

国際調査を完了した日

13.04.2005

国際調査報告の発送日

10.5.2005

国際調査機関の名称及びあて先

日本国特許庁 (ISA/J P)

郵便番号100-8915

東京都千代田区霞が関三丁目4番3号

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八原 由美子

電話番号 03-3581-1101 内線 3452

4C

9261

C (続き) . 関連すると認められる文献		
引用文献の カテゴリー*	引用文献名 及び一部の箇所が関連するときは、その関連する箇所の表示	関連する 請求の範囲の番号
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A	Yasuhiro Gon et al., Expression of thioredoxin in bleomycin-injured airway epithelium Possible role of protection against bleomycin induced epithelial injury, Life Sciences, Vol. 68, 2001, 1877-1888	1-7
A	Carol A. Airways Inflammation and COPD Epithelial-Neutrophil Interactions, CHEST, Vol. 121, 2002, p. 142S-150S	1-7
A	Yukio Ishii et al., Early Molecular and Cellular Events of Oxidant-Induced Pulmonary Fibrosis in Rats, Toxicology and Applied Pharmacology, Vol. 167, 2000, p. 173-181	1-7
A	William R. Henderson, Jr. et al., A Small Molecule Inhibitor of Redox-Regulated NF- $\kappa$ B and Activator Protein-1 Transcription Bloks Allergic Airway Inflammation in a Mouse Asthma Model, The Journal of Immunology, Vol. 169, 2000, p. 5294-5299	1-7